

REMARKS

Method claims 5-15 and 17 are now pending in this application. Claims 5 and 6 are independent.

Device claims 1-4 were previously withdrawn as being directed to the non-elected invention. Claims 1-4 and 16 have been canceled by this Amendment. Claim 6 has been amended into independent form in reliance upon the indication of allowable subject matter. Dependent claim 17 has been added so as to depend from independent claim 5.

Anticipation Rejection over Scherer et al.

Withdrawal of the rejection of claims 5 and 16 under 35 U.S.C. §102(b) as being anticipated by Scherer et al. (US 6,711,200) is requested. Multiple dependent claim 16 has been canceled, thus rendering its rejection moot. In addition, the applied art does not disclose all the limitations of independent claim 5, as discussed below.

At the outset, Applicant notes that anticipation requires the disclosure, in a prior art reference, of each and every limitation as set forth in the claims.¹ There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. §102.² To properly anticipate a claim, the reference must teach every element of the claim.³ “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference”.⁴ “The identical invention must be shown in as complete detail as is contained in the ...claim.”⁵ In determining anticipation, no claim limitation may be ignored.⁶

¹ *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

² *Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 USPQ2d 1001 (Fed. Cir. 1991).

³ See MPEP § 2131.

⁴ *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

⁵ *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

⁶ *Pac-Tex, Inc. v. Amerace Corp.*, 14 USPQ2d 187 (Fed. Cir. 1990).

Discussion of Scherer et al.

The observation of the Examiner that Applicants' claim 5 is anticipated by Scherer et al. (U.S. Patent 6,711,200 B1) is respectfully submitted as being mistaken. Indeed, Scherer et al. describe a method for creating a perforated membrane suspended above the substrate, somewhat similar to Applicants' disclosure; however, Scherer's approach is completely different from the claimed method.

In particular, Applicants' approach is considerably simpler, as it includes fewer fabrication steps. For example, Applicants' approach requires only two steps (after preparation of the multilayer film), *i.e.*, (1) exposure, and (2) development.

Note that the second developing step is a SINGLE step: the sample is placed in the developer, then rinsed and dried. This is reflected in claim 5, where the development step is recited, and is further defined in dependent claim 17.

In contrast, Scherer's disclosed approach requires many more steps, including:

- (1) exposing PMMA layer,
- (2) developing PMMA layer (this includes placing the sample in developer, then rinsing it and drying),
- (3) transferring the patterns in PMMA layer to the metal layer (Au and Cr) by Ar⁺ ion beam etching,
- (4) transferring the patterns in metal mask to the SiO₂ layer by C₂F₆ reactive ion etching (RIE),
- (5) dry etching through multiple layers with a dry Cl₂ etch,
- (6) removing the surface mask using buffered oxide etch, and
- (7) undercutting the membrane with HCl.

From the above list, it can be seen that Scherer's process, in addition to one development step, requires FIVE etch steps (three dry and two wet) to arrive at the suspended perforated membrane.

To summarize, while the end products of Applicants' claimed method and Scherer's process are somewhat similar in that they both result in a suspended perforated membranes, the methods to arrive at them are completely different, including the relative simplicity of Applicants' claimed approach.

Specific Deficiencies of Scherer et al.

In particular, the applied art does not disclose a method of forming a continuously suspended membrane that includes, among other features, "...developing the exposed pattern using a solvent...wherein a development time of the exposed pattern is selected to form a continuously suspended membrane from undissolved portions of the second film...", as recited in independent claim 5.

Clearly, Scherer et al. does not teach or suggest choosing the development time of the exposed pattern to form the continuously suspended membrane.

Reconsideration and allowance of claim 5 is respectfully requested.

New Claim 17

New dependent claim 17 has been drafted to avoid the applied art and to further define that which Applicants regard as their invention. No new matter is involved with the addition of claim 17.

Consideration and allowance of claim 17 are respectfully requested.

Conclusion

In view of the above amendment and remarks, applicant believes that each of pending claims 5-15 and 17 in this application is in immediate condition for allowance.

In the event the Examiner believes that an interview would be helpful in resolving any

outstanding issues in this case, the undersigned attorney is available at the telephone number indicated below.

Applicants believe that no fee is due with this response. However, if a fee is due, please charge CBLH Deposit Account No. 22-0185, under Order No. 00131-00281-US1 from which the undersigned is authorized to draw.

Respectfully submitted,

By /Larry J. Hume/

Larry J. Hume

Registration No.: 44,163

CONNOLLY BOVE LODGE & HUTZ LLP

1990 M Street, N.W., Suite 800

Washington, DC 20036-3425

(202) 331-7111

(202) 293-6229 (Fax)

E-mail: LHume@CBLH.com

Attorney for Applicant